

capacitance formed with a data bus line, as in claims 1 and 8 of the present invention, as amended.

Nakamura discloses an auxiliary capacitor 10 formed from part of each display electrode being laid on a gate line 20. (See col. 4, lines 13-15). Nakamura neither teaches nor suggests any other configuration to constitute the auxiliary capacitor 10.

In contrast, independent claims 1 and 8 of the present invention have been amended to clarify that a portion of a conductor pattern forming the auxiliary capacitance, and parallel to the pixel electrode, is the data bus line, and not a gate line. Nakamura neither teaches nor suggests such a configuration. For at least these reasons, the Section 103 rejection of claims 1-16 is respectfully traversed.

Furthermore, as previously argued, Nakamura's liquid crystal display device of the OCB mode is not analogous to the present invention. Nakamura merely teaches in one embodiment that the difference between the signal electrode potential V_S and the common voltage is preferably small. (See col. 5, line 13). Nakamura, however, also teaches that the difference between these two voltages may be substantially greater than 20 volts. (See col. 4, lines 43-44). Nowhere does Nakamura teach or suggest that the signal electrode potential V_S is a central voltage of an alternative-current driving voltage signal.

In contrast, claims 1 and 8 of the present invention as amended recite, among other things, that a direct-current source applies to the auxiliary electrode a common voltage which is substantially equal to a central voltage of the alternate-current driving voltage

signal. Nakamura nowhere teaches that signal electrode potential is a *central* voltage of a driving voltage signal.

Furthermore, even if the Examiner were to somehow find Nakamura's signal electrode potential analogous to the central voltage of the present invention, nowhere does Nakamura teach or suggest a voltage substantially equal to the common voltage. Nakamura merely teaches that the difference between the signal electrode potential and the common voltage may be small, but Nakamura also teaches that the difference may be greater than 20 volts. In other words, Nakamura's signal electrode potential V_s is simply not analogous to the central voltage of the present invention, which is substantially equal to the common voltage. By teaching that the difference may be greater than even 20 volts, Nakamura actually teaches away from the present invention, and further illustrates why the present invention would not be obvious in light of Nakamura's teachings. For at least these additional reasons, the Section 103 rejection based on Nakamura is respectfully traversed.

Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached Appendix is captioned "Version with Markings to Show Changes Made."

For all of the foregoing reasons, Applicants submit that this Application, including claims 1-16, is in condition for allowance, which is respectfully requested. The Examiner is invited to contact the undersigned attorney if an interview would expedite prosecution.

Respectfully submitted,

GREER, BURNS & CRAIN, LTD.

By



Josh C. Snider
Registration No. 47,954

December 2, 2002
Customer No. 24978
Suite 2500
300 South Wacker Drive
Chicago, IL 60606
(312) 360-0080
F:\DATA\WP600941\64334\report-b.doc

VERSION WITH MARKINGS TO SHOW CHANGES MADEIN THE CLAIMS:

Claims 1 and 8 have been amended as follows:

- 1 1. (Amended) A method of driving a liquid crystal display device, said
- 2 liquid crystal display device comprising:
- 3 a first substrate;
- 4 a second substrate opposing said first substrate with a gap therebetween;
- 5 a liquid crystal layer confined in said gap;
- 6 a thin-film transistor formed on said first substrate;
- 7 a ~~conductor pattern~~ data bus line formed on said first substrate in electrical
- 8 connection with said thin-film transistor, said ~~conductor pattern~~ data bus line supplying an
- 9 alternate-current driving voltage signal to said thin-film transistor;
- 10 a pixel electrode provided on said first substrate in electrical connection
- 11 to said thin-film transistor; an auxiliary electrode formed on said first substrate in the vicinity
- 12 of said ~~conductor pattern~~ data bus line so as to extend along said data bus line and so as to
- 13 form an auxiliary capacitance with~~connected~~ parallel to said pixel electrode, said auxiliary

14 electrode being disposed so as to induce a lateral electric field between said auxiliary
15 electrode and ~~said conductor pattern~~data bus line;
16 and an opposing electrode formed on said second substrate;
17 said method comprising the step of:
18 applying to said auxiliary electrode a common voltage substantially equal to a
19 central voltage of said alternate-current driving voltage signal.

1 8. (Amended) A liquid crystal display device, said liquid crystal display
2 device comprising:
3 a first substrate;
4 a second substrate opposing said first substrate with a gap therebetween;
5 a liquid crystal layer confined in said gap;
6 a thin-film transistor formed on said first substrate;
7 a ~~conductor pattern~~data bus line formed on said first substrate in electrical
8 connection with said thin-film transistor;
9 a driving circuit supplying an alternate-current driving voltage signal to said
10 thin-film transistor via ~~said conductor pattern~~data bus line;
11 a pixel electrode provided on said first substrate in electrical connection to said
12 thin-film transistor;

13 an auxiliary electrode formed on said first substrate in the vicinity of said

14 ~~conductor pattern~~data bus line so as to extend along said data bus line and so as to form an

15 auxiliary capacitance ~~with connected parallel~~ to said pixel electrode, said auxiliary electrode

16 being disposed so as to induce a lateral electric field between said auxiliary electrode and

17 said ~~conductor pattern~~data bus line;

18 an opposing electrode formed on said second substrate; and

19 a direct-current source applying, to said auxiliary electrode, a common voltage

20 substantially equal to a central voltage of said alternate-current driving voltage signal.